small depressed areas that are at first somewhat darker in colour than the rest of the epidermis and later turn brown; in still other cases the injury inside the fruit is so severe that the whole apple becomes much distorted and unfit for use. This last kind of injury is not nearly so common as either of the others.

Imperfect Fertilization.—If during the blossom period one or more of the pistils of the fruit fails to be fertilized the result is often a lop-sided or malformed fruit.

Spray Injury.—Sometimes spray mixtures, especially Bordeaux, injures a portion of the epidermis of a young fruit and, if the injury is sufficiently deep, will cause an interruption in the growth of that side and consequently a deformity. The failure of the surface over these injuries to keep pace with the growth of the tissues beneath often leads to its becoming cracked.

A NEW SPECIES OF THE GENUS NEPHROCERUS.

BY CHARLES W. JOHNSON, BOSTON, MASS.

The determination of the two American species of this genus has presented some difficulties owing to the dearth of material and to their close resemblance to some of the European species. Through the kindness of Mr. Frederick Knab, I have been able to study both sexes of *N. daeckei* and the specimen of the undescribed species collected by Mrs. A. T. Slosson, on Mt. Washington, N. H., in 1897. During the past two seasons six specimens of the latter have been collected, thus giving ample material to define more clearly our two species.

The following table, including the three European species will show some of the structural characters separating them from the American species:—

Table of Species.

1. Last tarsal joints of all the legs without conspicuously long, bristly hairs, arista entirely black ..... *lapponica* Zett.

   Last tarsal joints of all the legs with 4–7 long, bristly hairs 2

2. Hind tibiæ rather twisted, widened at the end, and with a circle of bristles at the tip ..... *flavicornis* Zett.

Hind tibiæ simple, not noticeably widened at the ends, and without a circle of bristles at the tip.....3

3. Arista entirely black, third joint of the antennæ small, brown.....*scutellatus* Macq.

Arista with the thickened basal portion yellow, antennæ entirely bright yellow.....4

4. Abdomen with two distinct bands in both sexes; upper half of front of female linear.....*daeckei* Johns.

Abdomen indistinctly banded in the male, in the female the lateral margins are yellow, upper half of the front of the female not linear.....*slossonæ* sp. n.

Nephrocerus daeckei Johnson.

N. daeckei Johns., Ent. News, Vol. XIV, p. 107, 1903.

In this species the sexes are so similar that one of the co-types before me was inadvertently referred to as a male, probably because the front is so narrow. For about one-half its length it is a mere line. The sides of the first and the posterior margins of the second and third abdominal segments are widely margined with yellow. The wings are proportionately broader and not of equal width as in the following species.

In addition to the types from Richmond Hill, Long Island, N. Y., July 2, 1901, I have examined two males from Plummer's Island, Md., June 29, 1913 (R. E. Shannon), and one female, Franconia, N. H. (Mrs. Slosson) in the U. S. National Museum.

Nephrocerus slossonæ, sp. n.

Nephrocerus, n. sp. Ent. News, Vol. VIII, p. 237, 1897.

Male.—Face and front covered with silvery white tomentum, vertical triangle and occiput black, grayish pruinose, occipital orbits deeply emarginate, mouth parts and antennæ light yellow, arista black, the thickened base light yellow. Thorax, discal portion black, shining, the anterior third covered with a grayish bloom, humeri, broad lateral stripes, and the scutellum, yellow, the latter much darker than the humeri, pleura livid, a lighter

area below the base of the wing bearing a small black spot, metanotum black. Abdomen black, shining, thinly covered with quite long yellow hair, with conspicuous tufts on the sides of the first segment, sides of the first and the posterior margins of the second and third segments brownish, hypopygium brown, the two large rounded glands diverted to the right, with a black, spirally coiled "flagellum" below. Legs and halteres light yellow, the long bristles at the end of the last tarsal joints four in number, posterior tibiæ nearly straight, not noticeably thickened and without bristles. Wings long, narrow, of nearly equal width, grayish hyaline, posterior branch of the fifth longitudinal vein scarcely reaching the margin, tegulæ yellow.

Length 8 mm., wing 9 mm.

Female.—Front narrow below the vertex, gradually widening above the antennæ, about four times its width at the vertex. Thorax similar to that of the male except that the pleura are light yellow with small black point below the base of the wing, and black spots between the coxæ, disc of the scutellum and the metanotum blackish. Abdomen dark yellow, with an irregular, broad dorsal line of black constricted at the margins and covering about one-third of each of the first five segments, the fourth and fifth segments also narrowly margined posteriorly with black, sixth and seventh segments and the hook-like ovipositor entirely yellow.

Length 7.5, wing 8.5 mm.

Five males amd two females. Holotype, allotype and one paratype, Bretton Woods, N. H., June 25 and 28, 1913 (C. W. Johnson), and one paratype (♂), Mt. Washington above Base Station, N. H., July 4, 1914 (C. A. Frost), in the collection of the Boston Society of Natural History. One paratype (♂) summit of Mt. Washington (Mrs. Slosson) in U. S. National Museum. One paratype (♂) Bretton Woods, June 28, in Museum of Comparative Zoology, and one (♂) Mt. Washington above Base Station, July 4, in the author's collection. The specimens collected by Mrs. Slosson and one of those collected by Mr. Frost have the abdomen entirely black.